CLAIMS

What is claimed is:

1. In combination, a manifold and a sensor,

the manifold having a port for receiving the sensor, and external projections adjacent the port for aligning the sensor for insertion into the port and for preventing removal from the port, the port having diametrically opposed, radially inwardly projecting lugs, each lug having a ramped leading edge;

the sensor having an insertion portion and a cable connection interface portion, the insertion portion and the cable connection interface portion being at right angles to one another; the insertion portion having a profile matching the port, and having diametrically opposed, radially outwardly projecting lugs, each lug having a ramped leading edge;

whereby the insertion portion of the sensor is adapted to be inserted into the port of the manifold in an insertion position with the lugs out of alignment, and whereby the sensor is further adapted to be rotated so that the ramped portions of the lugs engage to draw the sensor into a seated position as the cable connection interface portion of the sensor abuts an external projection in the form of a rotation stop, and whereby the sensor is prevented from rotating back to the insertion position by an anti-rotation projection when a cable is connected to the cable connection interface portion.

2. An insert retention system comprising in combination:

an insertion port formed in a body and having at least one inwardly extending projection;

an insert including:

an insertion portion having a longitudinal axis and at least one radially outwardly extending projection, the insertion portion adapted for insertion into the insertion port in a first orientation wherein the radially outwardly extending projection is not rotationally aligned with the inwardly extending projection, and rotation to a second orientation wherein the projections are rotationally aligned; and

an external connection interface extending radially outwardly from the longitudinal axis;

and

a plurality of material formations extending from the body adjacent the insertion port, the material formations adapted to obstruct rotation of the insert from the second orientation to the first orientation upon attachment of an external connection to the external connection interface.

3. The system of claim 2, wherein the external connection interface is joined to the insertion portion at a right angle.

4. The system of claim 2, wherein the at least one radially outwardly extending projection comprises two diametrically opposed radially outwardly extending projections and the at least one radially inwardly extending projection comprises two diametrically opposed extending projections.

5. The system of claim 2, wherein the material formations are further adapted for receiving the connection interface therebetween for aligning the insert in the insertion port in the first orientation.

6. A method of attachment of a sensor to a wall of a fluid chamber, comprising:

providing a passage through the wall into an interior of the fluid chamber, the passage having at least one radially inwardly projecting lug;

providing a sensor having a condition sensing portion adapted for reception in the passage for fluid connection to the interior of the fluid chamber and an external system connecting portion, the condition sensing portion having with a longitudinal axis and at least one radially outwardly projecting lug;

providing a plurality of outward projections formed on an outer surface of the wall adjacent the passage, wherein the outward projections are adapted to direct insertion of the sensor into the passage in a first orientation and to permit rotation of the sensor about the longitudinal axis to a second orientation; and

inserting the condition sensing portion into the passage in a longitudinal direction in the first orientation, rotating the sensor about the longitudinal axis to the second orientation for engaging the inwardly projecting lug with the outwardly projecting lug to prevent removal of the

sensor from the passage in the longitudinal direction, and attaching an external connection to the sensor, thereby preventing rotation of the sensor from the second orientation to the first orientation.

7. The method of claim 6, wherein the external system connecting portion is joined to the condition sensing portion at a right angle.

8. The method of claim 6, wherein the at least one radially outwardly projecting lug comprises two diametrically opposed lugs and the at least one radially inwardly projecting lug comprises two diametrically opposed lugs, and wherein rotating the sensor moves the inwardly and outwardly projecting lugs from a non-aligned condition in the first orientation to an aligned condition in the second orientation.